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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,010	08/31/2000	Katsuyuki Naito	196880US	2943

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EXAMINER	
VUONG, BACH Q	

ART UNIT	PAPER NUMBER
2653	6

DATE MAILED: 11/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/652,010	NAITO ET AL.	
	Examiner	Art Unit	
	Bach Q Vuong	2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14 and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakai et al. (US 5,162,819).

Sakai et al., according to Figs. 1-6, shows a recording medium comprising all features of the claimed invention.

Regarding claim 1, see Figs. 1-6 which show a recording medium comprising: a substrate (see substrate 8); a recording layer (see recording layer 13) overlying the substrate and having a plurality of charge accumulating regions each containing a first material capable of accumulating an electric charge; and a photoconductive layer (see film 10) formed on the recording layer and having a photoconductive region containing a second material whose conductivity is increased by light absorption.

Regarding claim 2, see Figs. 1-3 which show a recording medium further comprising: a conductive layer interposed between the substrate and the recording layer; and an insulating layer interposed between the conductive layer and the recording layer.

Regarding claim 3, see Figs. 1-3 which show a recording medium wherein a recording layer further comprises at least one electrically insulating region which electrically insulates the plural charge accumulating regions from other (see layers 11-13 for details).

Regarding claim 4, see Figs. 1-3 which show a recording medium wherein a recording layer has a structure that the plural charge accumulating regions and the at least one electrically insulating region are juxtaposed to each other overlying the substrate (see layers 8-12 for details).

Regarding claim 5, see the respective disclosure of Fig. 1 which show a recording medium wherein the recording layer has a dispersing medium and the plural charge accumulating regions dispersed in the dispersing medium and the at least one electrically insulating region constitutes at least a part of the dispersing medium.

Regarding claim 6, see Figs. 1-3 which show a recording medium wherein the recording layer has an insulating layer having a plurality of recessed portions on the surface thereof as at least one electrically insulating region and has a structure that the recessed portions are filled with the plural charge accumulating regions.

Regarding claim 7, see Figs. 1 and 3 which show a recording medium wherein the second materials is a material whose conductivity is non-linearly changed in accordance with intensity of light irradiating the second material.

Regarding claim 8, see Figs. 1-3 which show a recording medium comprising: a substrate (see substrate 8); a conductive layer overlying the conductive layer and containing a second material whose conductivity is increased by light absorption; and a recording layer formed on the photoconductive layer and having a plurality of charge accumulating regions each containing a first material capable of accumulating an electric charge.

Regarding claim 9, see Figs. 1-3 which show a recording medium further comprising an electrically insulating region which electrically insulates the plural charge accumulating regions from each other.

Regarding claim 10, see Figs. 1and 3 which show a recording medium wherein the second material is a material whose conductivity is non-linearly changed in accordance with intensity of light irradiating the second material.

Regarding claim 11, see the rejection applied to claim 1.

Regarding claim 12, see the rejection applied to claim 2.

Regarding claim 13, see the rejection applied to claim 7.

Regarding claim 14, see Figs. 1-6 which show a recording apparatus comprising: a recording medium comprising a substrate (see substrate 8) and a recording layer (see recording layer 13) overlying the substrate and having a plurality of charge accumulating regions each containing a first material capable of accumulating an electric charge, the recording layer further comprising a photoconductive region (see film 10) containing a second material whose conductivity is increased by light absorption or the recording medium further comprising a photoconductive layer in contact with the recording layer and having the photoconductive region; and a recording head arranged to face the main surface of the recording medium and comprising a light emitting section emitting light toward the recording layer into at least one of the plural charge accumulating regions.

Regarding claim 16, see Figs. 1-6 which show a recording apparatus further comprising a reproducing head arranged to face the recording medium and reading

information corresponding to amount of charge accumulated in the plural charge accumulating regions.

Regarding claim 17, see Figs. 1-3 which show a recording apparatus wherein the recording medium has a laminate structure of the recording layer overlying the substrate and photoconductivity layer formed on the recording layer.

Regarding claim 18, see Figs. 1 and 3 which show a recording apparatus wherein the recording medium (see recording medium 14) further comprises a conductive layer and has a structure that the conductive layer overlying the substrate, the photoconductive layer is formed on the conductive layer, and the recording layer is formed on the photoconductive layer.

Regarding claim 19, see Figs. 1-6 which show a recording apparatus wherein the recording medium further comprises: a conductive layer (see films 10-12) interposed between the substrate and the recording layer; and an insulating layer (see film 11) interposed between the conductive layer and the recording layer.

Regarding claim 20, see Figs. 1-3 which show a recording method of recording information by injecting an electric charge into a charge accumulating region containing a first material capable of accumulating the charge, comprising the steps of: irradiating a photoconductive region arranged in contact with the charge accumulating region and containing a second material whose conductivity is increased by light absorption with light (see light 16 or 22); and injecting an electric charge accumulating region via a portion of the photoconductive region irradiated with light (see the respective disclosure of Fig. 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai et al. (US US 5,162,819) in view of Tanaka et al. (US 6,614.746).

Sakai et al., according to Fig.1, 2 and 4, shows a recording apparatus with all features as recited in claim 14. However, Sakai et al. do not specifically disclose the light emitting section is near field light as recited in claim 15. Tanaka et al., according to Fig.4, discloses that utilizing a near-field light onto a recording medium (see near-field light Figs. 1-3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of a near-field light as taught by Tanaka et al. into the optical recording apparatus of Sakai et al. in order to perform a high density recording.

Cited References

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references relate to an optical recording medium and recording apparatus and method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bach Q Vuong whose telephone number is (703) 305-7355. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

BV
November 14, 2003

THANH V. TRAN
PRIMARY EXAMINER